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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,645	07/05/2001	Chun Ping Li	35718/235742 (5718-114)	7724
826	7590	10/18/2004	EXAMINER KALLIS, RUSSELL	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			ART UNIT 1638	PAPER NUMBER

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/899,645

Applicant(s)

LI ET AL.

Examiner

Russell Kallis

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-8, 10-14, 17, 21, 22, 24-30 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21, 22 and 24-30 is/are allowed.
- 6) ☒ Claim(s) 5-8, 10-14, 17 and 37-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: sequence report.

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### **DETAILED ACTION**

Claims 1-3 are cancelled. Claims 37-39 are newly added. Claims 5-8, 10-14, 17, 21-22, 24-30 and 37-39 are pending and examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Rejection of Claims 1-3 under 35 U.S.C. 102(e) is withdrawn in view of Applicant's amendments.

Rejection of Claims 5-8, 10-14, 17, 21-22, and 24-30 under 35 U.S.C. 112, first paragraph, is withdrawn in view of Applicant's amendments.

Rejection of Claims 5-8, 10-14, 17, 21-22 and 24-30 under 35 U.S.C. 112, second paragraph is withdrawn in view of Applicant's amendments.

#### ***Claim Rejections - 35 USC § 112***

Claims 5-8, 10-14, 17 and 37-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of decreasing  $\beta$ -oxidation in a plant by introduction of an acyl-CoA thioesterase wherein the level of acyl-CoA thioesterase is increased and the level of oil is increased, does not reasonably provide enablement for a method of both decreasing or increasing  $\beta$ -oxidation in a plant by introduction of an acyl-CoA thioesterase wherein the level of acyl-CoA thioesterase is decreased and the level of oil is increased or an oil constituent in a plant. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The claimed invention is not supported by an enabling disclosure taking into account the *Wands* factors. *In re Wands*, 858/F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988). *In re Wands* lists a number of factors for determining whether or not undue experimentation would be required by one skilled in the art to make and/or use the invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claim.

Applicant broadly claims a method for decreasing  $\beta$ -oxidation in a plant transformed with a nucleic acid encoding an acyl-CoA thioesterase whereby the level of acyl-CoA thioesterase is decreased or increased and the level of oil in the plant is increased.

Applicant teaches SEQ ID NO: 1 encoding SEQ ID NO: 2; and the specification provides guidance for methods of transforming and introducing DNA into a plant; methods of modulating acyl-CoA thioesterase activity; and methods of measuring  $\beta$ -oxidation and oil constituents in a plant.

Applicant does not teach a method of both increasing or decreasing acyl-CoA thioesterase expression in a plant that results in the decrease of  $\beta$ -oxidation and an increase in the level of oil or an oil constituent in a plant.

The state-of-the-art is such that one of skill in the art cannot predict whether both increasing and decreasing will result in the decrease of  $\beta$ -oxidation and an increase in the level of oil or an oil constituent in a plant. The unpredictability lies in the simple fact that in order for  $\beta$ -oxidation to increase, resulting in decreased oil levels, the activity of the acyl-CoA thioesterase

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must be limited; and for  $\beta$ -oxidation to decrease, resulting in increased oil levels, the activity of the acyl-CoA thioesterase must be increased (Harwood, J. L. *et al.* Biochemica et Biophysica Acta, 1996; Vol. 1301; pp. 7-56; see page 43, column 2, lines 3-5).

Given the lack of guidance in the instant specification, undue trial and error experimentation would be required for one of ordinary skill in the art to determine how to both increase or decrease acyl-CoA thioesterase activity such that either level of activity would result in a plant having decreased  $\beta$ -oxidation and an increased level of oil or oil constituent.

Therefore, given the breadth of the claims; the lack of guidance and working examples; the unpredictability in the art; and the state-of-the-art as discussed above, undue experimentation would be required to practice the claimed invention, and therefore the invention is not enabled throughout the broad scope of the claims.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Claims 5-8, 10-14, 17 and 37-39 are rejected.

Claims 21-22 and 24-30 are allowed

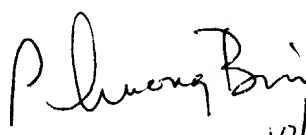
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Russell Kallis Ph.D.  
October 8, 2004

  
10/13/04  
PHUONG T. BUI  
PRIMARY EXAMINER





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2y 961 GTCAAACTAACATTTTCTTCTCAATTTCTCCGATGATTTCTATTTGTTTGGTGTGTG 1020
db 961 GTCAAACTAACATTTTCTTCTCAATTTCTCCGATGATTTCTATTTGTTTGGTGTGTG 1020
2y 1021 TGGTTGAGGGGTATTGGAAGCGGAAGCGAGCGGAGGGTTTGATACCTTAGCGTATTT 1080
db 1021 TGGTTGAGGGGTATTGGAAGCGGAAGCGAGCGGAGGGTTTGATACCTTAGCGTATTT 1080
2y 1081 CCTCGACCTTACTTTCATTATACGACACATATATACATATTTTAAACTTCCAAAAAAA 1140
db 1081 CCTCGACCTTACTTTCATTATACGACACATATATACATATTTTAAACTTCCAAAAAAA 1140
2y 1141 AAAAAAACTCGAGGGGGGGCCCGGTACC 1169
db 1141 AAAAAAACTCGAGGGGGGGCCCGGTACC 1169

RESULT 2
US-09-899-645A-1
; Sequence 1: Application US/09899645A
; GENERAL INFORMATION:
; APPLICANT: Li, Chun Ping
; APPLICANT: Zheng, Peizhong
; APPLICANT: Nichols, Scott
; TITLE OF INVENTION: METHODS FOR REGULATING BETA-OXIDATION IN PLANTS
; FILE REFERENCE: 35718/235742
; CURRENT APPLICATION NUMBER: US/09/899,645A
; CURRENT FILING DATE: 2001-07-05
; PRIOR APPLICATION NUMBER: 60/216,211
; PRIOR FILING DATE: 2000-07-06
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO.: 169
; LENGTH: 169
; TYPE: DNA
; ORGANISM: Zea mays
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (89) ..(814)
US-09-899-645A-1

```

Query Match	100.0%	Score 1169;	DB 36;	Length 1169;
Best Local Similarity	100.0%;	Pred. No. 3,3e-205;		
Matches 1169;	Conservative	C; Mismatches	0; Indels	0; Gaps
QY	-	GAGCTCCACCGCGGTGGCGCGGCTCTAGAACCTAGTGGATGCCCGCGGCTGCAGGAATTC	60	
DB	1	GAGCTCCACCGCGGTGGCGCGGCTCTAGAACCTAGTGGATGCCCGCGGCTGCAGGAATTC	60	
QY	61	GGCAGGAGACGCTGTGTGATCTCTTAAAAATGGTGCATGTTTGCATTCGCAATTTTCTTGT	120	
DB	61	GGCAGGAGACGCTGTGATTTGCTAAAAATGGTGCATGTTTGCATTCGCAATTTTCTTGT	120	
QY	121	TGCTGGAGCAATAACATACCGATAAATATCAAGTTTCATCGGGCAGGTGA-GGATCCAG	180	
DB	121	TGCTGGAGCAATAACATACCGATAATATCAAGTTTCATCGGGCAGGTGATGGATCCAG	180	
QY	181	CTTTGCCACAGAAAAGTGGAGGCAAGCAGAGGGCTTAGTTGTATTCACTTGTATTC	240	
DB	181	CTTTGCCACAGAAAAGTGGAGGCAAGCAGAGGGCTTAGTTGTATTCACTTGTATTC	240	
QY	241	TTCTTTCCAGAGGAGAGTGGTGGTTTGGACATCGGCTGCATCATGCTCTGATGTCC	300	
DB	241	TTCTTTCCAGAGGAGAGTGGGTTTGGACATCGGCTGCATCATGCTCTGATGTCTCC	300	
QY	301	TCCGCCAGAACAGCTCCCTTAATCTTGGAGGAGATACGTTGAAGACGGCTTACTGATCCAG	360	
DB	301	TCCGCCAGAACAGCTCCCTTAATCTGGAGGAGATACGTTGAAGACGGCTTACTGATCCAG	360	
QY	361	CTTCCGATCCCAATATAGAACCTTGGCAGCTTAAAAAAGTTTATTCCTTGGCCCATAGA	420	
DB	361	CTTCCGATCCCAATATAGAACCTTGGCAGCTTAAAAAAGTTTATTCCTTGGCCCATAGA	420	

421	QY	AATGAGATTTTGTGAAGGTTTCAGCGTCTCAACATTAACCAAGCTTAACTACTCGTTTAG	480
421	DB	AATGAGATTTTGTGAAGGTTTCAGCGTCTCAACATTAACCAAGCTTAACTACTCGTTTAG	480
481	QY	AGCTTCAGGGAACCTCTCAGACGACCAAGCTCTACAGATGTGTGTAGCATATGCTTC	540
481	DB	AGCTTCAGGGAACCTCTCAGACGACCAAGCTCTACAGATGTGTGTAGCATATGCTTC	540
541	QY	GGATCTACTATTTTCTGGGTTGAGCCTTAACTCTCATCTGGGAGAGGGTTTGAAGACATA	600
541	DB	GGATCTACTATTTTCTGGGTTGAGCCTTAACTCTCATCTGGGAGAGGGTTTGAAGACATA	600
601	QY	CTGCTCTCAGCTTTGACCAATTCATCTCGTTTCCCAAAACCTGTGAAGGCTGACGAATGGAT	660
601	DB	CTGCTCTCAGCTTTGACCAATTCATCTCGTTTCCCAAAACCTGTGAAGGCTGACGAATGGAT	660
661	QY	GCTGTATGTGTGTCGAGAGGCCATCTCTGCCACGGTGTGCGCGGTTTCTCATCCCGAGCGCAT	720
661	DB	GCTGTATGTGTGTCGAGAGGCCATCTCTGCCACGGTGTGCGCGGTTTCTCATCCCGAGCGCAT	720
721	QY	GTTTCACAGGCAAGGAGAGCTTATCATCTCGTCTGCTGACCAAGAGCGCATTTGACAGGGA	780
721	DB	GTTTCACAGGCAAGGAGAGCTTATCATCTCGTCTGCTGACCAAGAGCGCATTTGACAGGGA	780
781	QY	GAAGCCGCGAGSACCAAATCCGAGGCGGAAGCTTTGAGGCCACCTGCAGAGCTCTGCGATC	840
781	DB	GAAGCCGCGAGGACCAAATCCGAGGCGGAAGCTTTGAGGCCACCTGCAGAGCTCTGCGATC	840
841	QY	GACTGTAGAGATCCCAAACCGAGCTTTGAGAGGCGCACCATCTCTTCTCTAAATTTGGTT	900
841	DB	GACTGTAGAGATCCCAAACCGAGCTTTGAGAGGCGCACCATCTCTTCTCTAAATTTGGTT	900
901	QY	TAGTATTTATGATTTCAACAACAATAATAGATATCAAGGAGTATAAAGATCTCAA	960
901	DB	TAGTATTTATGATTTCAACAACAATAATAGATATCAAGGAGTATAAAGATCTCAA	960
961	QY	GTCAAACCTAACATTTTTTTTTCATTTCCGGATGATTTCTATTTGTTTTGGTGTGTG	1020
961	DB	GTCAAACCTAACATTTTTTTTTCATTTCCGGATGATTTCTATTTGTTTTGGTGTGTG	1020
1021	QY	TGTTTCAGAGCGGTATTGGAAGCGGAGCGGAGCGGAGGTTTGCATCTTTAGGCTATTT	1080
1021	DB	TGTTTCAGAGCGGTATTGGAAGCGGAGCGGAGGTTTGCATCTTTAGGCTATTT	1080
1081	QY	CCTCGAGCTTACTTTCATTTATCGAACAGTATATACATATTTTAACTTCAAAAANAAA	1140
1081	DB	CCTCGAGCTTACTTTCATTTATCGAACAGTATATACATATTTTAACTTCAAAAANAAA	1140
1141	QY	AAAAAAAACCTCGAGGGGGCGCCGGTACC	1169
1141	DB	AAAAAAAACCTCGAGGGGGCGCCGGTACC	1169

```

RESULT 3
US-60-172-945-1
; Sequence 1, Application US/60172946
; GENERAL INFORMATION:
; APPLICANT: Allen, Steve
; APPLICANT: Ping, Chun
; TITLE OF INVENTION: Palmitoyl-Acyl-ACP Thioesterases in Plants
; FILE REFERENCE: BB1428 US PV
; CURRENT APPLICATION NUMBER: US/60/172,946
; CURRENT FILING DATE: 1999-12-21
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Microsoft Office 97
; SEQ ID NO 1
; LENGTH: 1100
; TYPE: DNA
; ORGANISM: Zea mays
US-60-172-946-1
Query Match
Best Local Similarity
92.5%; Score 1081; DB 73; Length 1100
99.5%; Pred. No. 53e-189;

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Matches 242; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 DB 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 QY 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120  
 DB 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120  
 QY 121 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 180  
 DB 121 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 180  
 QY 181 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 240  
 DB 181 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 240  
 QY 241 KL 242  
 DB 241 KL 242

RESULT 2  
 US-09-899-645A-2  
 ; Sequence 2, Application US/09899645A  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Li, Chun Ping  
 ; APPLICANT: Zheng, Peizhong  
 ; APPLICANT: Nichols, Scott  
 ; TITLE OF INVENTION: METHODS FOR REGULATING BETA-OXIDATION IN PLANTS  
 ; FILE REFERENCE: 3518/235742  
 ; CURRENT APPLICATION NUMBER: US/09/999,645A  
 ; CURRENT FILING DATE: 2001-07-05  
 ; PRIOR FILING DATE: 60/216,211  
 ; NUMBER OF SEQ ID NOS: 8  
 ; SOFTWARE: PatentIn Ver. 2.1  
 ; SEQ ID NO 2  
 ; LENGTH: 242  
 ; TYPE: PRT  
 ; ORGANISM: Zea mays  
 US-09-899-645A-2

Query Match 100.0%; Score 1281; DB 23; Length 242;  
 Best Local Similarity 100.0%; Pred. No. 3.6e-135;  
 Matches 242; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 DB 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 QY 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120  
 DB 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120  
 QY 121 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 180  
 DB 121 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 180  
 QY 181 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 240  
 DB 181 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 240  
 QY 241 KL 242  
 DB 241 KL 242

RESULT 3  
 US-60-172-946-2  
 ; Sequence 2, Application US/60172946  
 ; GENERAL INFORMATION:

APPLICANT: Allen, Steve  
 APPLICANT: Ping, Chun  
 TITLE OF INVENTION: Palmitoyl-Acyl-ACP Thioesterases in Plants  
 FILE REFERENCE: BB1428 US PRV  
 CURRENT APPLICATION NUMBER: US/60/172,946  
 CURRENT FILING DATE: 1999-12-21  
 NUMBER OF SEQ ID NOS: 13  
 SOFTWARE: Microsoft Office 97  
 SEQ ID NO 2  
 LENGTH: 255  
 TYPE: PRT  
 ORGANISM: Zea mays  
 US-60-172-946-2

Query Match 100.0%; Score 1281; DB 33; Length 255;  
 Best Local Similarity 100.0%; Pred. No. 3.9e-135;  
 Matches 242; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 DB 14 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 73  
 QY 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120  
 DB 74 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 132  
 QY 121 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 180  
 DB 134 QHKPSLNTWFRARGKLSDDQALHRCVAYASDLLFSGVSLNPHREKGLKTYCLSLDHSIW 193  
 QY 181 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 240  
 DB 194 FHKPVKADENWLYVIESPSAAGRGFTVGRMFRQGLIMSLTOALIRREKPGPNRP 253  
 QY 241 KL 242  
 DB 254 KL 255

RESULT 4  
 US-10-2-9-999-45264  
 ; Sequence 45264, Application US/10219999  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Cao, Yongwei  
 ; APPLICANT: Edgerton, Michael D  
 ; APPLICANT: Hinkle, Gregory J.  
 ; APPLICANT: Kovacic, David K.  
 ; APPLICANT: Liu, Jingsong  
 ; APPLICANT: Stein, Joshua  
 ; TITLE OF INVENTION: CDNA SEQUENCES AND USES FOR PLANT IMPROVEMENT  
 ; FILE REFERENCE: 39-10(52726)C  
 ; CURRENT APPLICATION NUMBER: US/10/219,999  
 ; CURRENT FILING DATE: 2002-08-15  
 ; PRIOR FILING DATE: 2002-08-15  
 ; PRIOR FILING DATE: 2001-09-21  
 ; PRIOR APPLICATION NUMBER: US 60/312,544  
 ; PRIOR FILING DATE: 2002-08-15  
 ; NUMBER OF SEQ ID NOS: 63520  
 ; SEQ ID NO 45264  
 ; LENGTH: 424  
 ; TYPE: PRT  
 ; ORGANISM: Zea mays  
 US-10-2-9-999-45264

Query Match 96.9%; Score 1267; DB 28; Length 424;  
 Best Local Similarity 96.8%; Pred. No. 3.1e-133;  
 Matches 239; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 60  
 DB 183 MVHSLHAIFLVAGDNNIPITTYOVRHARDGSSPATRKVEAKQGLVVFLLIASFOKEEVGF 242  
 QY 61 EHOAAIMPDPVPPPEOLLNLEIEIRERLTDRPFSQYENLAAXKXFIPIPIEMRFECSAS 120